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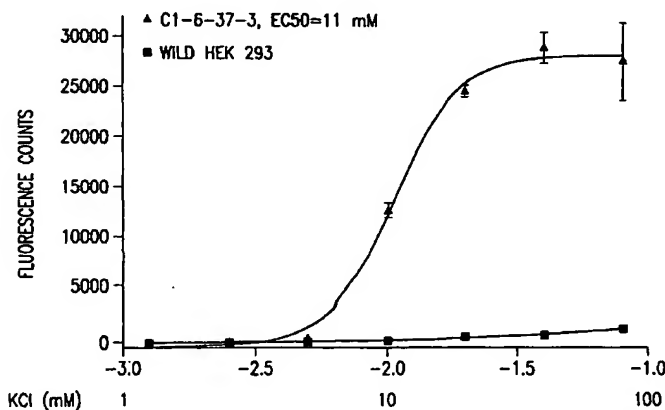
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- (71) Applicant (*for all designated States except US*): MERCK & CO., INC. [US/US]; 126 East Lincoln Avenue, Rahway, NJ 07065-0907 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): XIA, Meng-hang [US/US]; 126 East Lincoln Avenue, Rahway, NJ 07065-0907 (US). CONNOLLY, Thomas, M. [US/US];
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(54) Title: ASSAY METHODS FOR STATE-DEPENDENT CALCIUM CHANNEL AGONISTS/ANTAGONISTS

DOSE-RESPONSE RELATIONSHIP FOR K<sup>+</sup>-STIMULATED CALCIUM INFLUX IN WILD TYPE HEK 293 CELLS AND CELLS STABLY TRANSFECTED WITH THE L-TYPE  $\Delta$ 1C CHANNEL (C1-6-37-3)



(57) **Abstract:** Methods of identifying activators and inhibitors of voltage-gated ion channels are provided in which the methods employ cells transfected with a voltage-gated ion channel of interest and a corollary channel to control the membrane potential of the cells by changing extracellular ion concentration. This allows for more convenient, more precise experimental manipulation of these transitions, and, coupled with efficient methods of detecting the result of ion flux through the channels, provides methods that are especially suitable for high throughput screening.